

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/649,451	ASTAKHOV ET AL.	
	Examiner Eric A. Gates	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Applicant's amendment filed 25 April 206.
2.  The allowed claim(s) is/are 1-14.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 4/25/06
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**

1. This office action is in response to Applicant's amendment filed on 25 April 2006.
  
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael Turner on 17 July 2006.

The application has been amended as follows:

Claims 15 through 26. (Canceled)

***Allowable Subject Matter***

3. Claims 1-14 are allowed. Claims 1 and 8 are the independent claims.
4. The following is an examiner's statement of reasons for allowance:

The closes prior art of record is Applicant's Admitted Prior Art, which was applied to the claims in the office action mailed 26 January 2006, and Kawase et al. (U.S. Patent 5,443,585). The studies disclosed in the specification, applied as prior art in the rejection of the claims, were not disclosed as prior art by the Applicant (as explained in Applicant's amendment, pages 10-11), and these portions of the rejections are withdrawn. Therefore Applicant's Admitted Prior Art does not disclose "wherein the

drilling fluid flows into an elongate fluid return path initially forming a maximum angle  $\beta$ , relative to the hole axis when viewed radially, which is greater than sixty-six degrees in order to effectively cool the cutting edge at the tip end with minimal drilling fluid stagnation", as required in claim 1 and as defined on page 19 of the instant specification, or that "the outlet passage having a minimum cross-sectional area which is less than a longitudinal cross-sectional area of the bottom space area taken along the hole axis", as required in claim 8 and as defined on pages 12 and 15 of the instant specification. Therefore, Applicant's Admitted Prior Art does not anticipate the present invention as set forth in independent claims 1 and 8.

Kawase et al. discloses a gundrill 1 with a tubular shank 11 and a cutting member 12 that includes a tip orifice 16 that discharges cutting fluid, wherein the drilling fluid flows into an elongate fluid return path 17. Kawase et al. does not disclose any information concerning the initial angle of the fluid return path, nor does any other prior art of record, and as such does not disclose "wherein the drilling fluid flows into an elongate fluid return path initially forming a maximum angle  $\beta$ , relative to the hole axis when viewed radially, which is greater than sixty-six degrees in order to effectively cool the cutting edge at the tip end with minimal drilling fluid stagnation". Also, Kawase et al. teachings include increasing the cross-sectional area of the chip outlet passage, which is contrary to the teachings of the instant application, and as such does not disclose "the outlet passage having a minimum cross-sectional area which is less than a longitudinal cross-sectional area of the bottom space area taken along the hole axis". Therefore,

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Kawase et al. does not anticipate the present invention as set forth in independent claims 1 and 8.

Additionally, there is no combinable teaching in the prior art that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Kawase et al., and thus, for at least the foregoing reasoning, the prior art of record does not render obvious the present invention as set forth in independent claims 1 and 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
EAG  
17 July 2006

  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER